



IOWAccess Project Concept Paper

Date: November 3, 2008

Project Name: Water Use Web Information

Requesting Agency: Water Supply Engineering Section of Department of Natural Resources

Is this project in support of a program designated as an Iowa Great Place, pursuant to section 303.3c? NO

Project Point(s)-of-Contact

- Dennis Alt, Supervisor, 515-725-0275
- Charlotte Lafargue Henderson, 515-725-0341
- Mike Anderson, 515-725-0333

Project Sponsor

- Chuck Corell, Bureau Chief, Water Quality, 515-281-4582

Business Case Justification

Iowa Code Section 455B.266 details Iowa's current water priority-allocation system. Section 455B.171 defines uses of water for human consumption and sanitation. To summarize, all waters are "public waters and the public wealth" of Iowa citizens. Iowa statute provides an allocation system based on "beneficial use." Waste, unreasonable use and unreasonable methods of water use are to be prevented. Iowans are adamant about good management of state assets. Planning and management of water resources to identify existing problems and emerging issues is imperative. Improving and protecting water quantity and quality reflects wise resource management.

- Attachment #1, **An Overview of Water Use Permitting in Iowa**

With the increase in major industries and similar entities that use water as part of their normal operation, the problem has arisen of how much water Iowa has available. Examples include the growing demands for ethanol, livestock and other irrigation, and geothermal uses. While Iowa is not facing an immediate statewide water shortage, there is concern for localized situations and for sustainability over the upcoming decades.

Limited State resources exist to properly assess water quantity issues. Therefore, Iowa's comprehensive long term water plan (for industry, drinking, and other water uses) has been developed. This plan summarizes water resource trends, suggests how to address problems, and specifies what quantity of water is currently available in aquifers. The plan includes projections for future water use in the state. However, that plan has limited use without accurate and timely data.

DNR has the responsibility to acquire and make available to the public information about Iowa's water quantity and water quality. In particular, this incorporates major water users in private industry and municipal utilities. This data is necessary to assure sustainable water resources. Information is available in various forms within the Department and with other agencies but must be manually gathered, assessed, integrated, and put into an electronic format for planning purposes and allocation decisions.

The DNR seeks funding to develop a web-based information database and decision support system to use in decision-making for resource management and assessments (predictive models). Our vision is to allow access to data from various existing databases and from those that will be developed in the future. These existing databases are managed by the DNR's Iowa Geological Survey and by the DNR's Water Quality Bureau. Regulated industry, the public, and other state and federal agencies also utilize this information.

Information from the new database will be shared with Public Health agencies, the DOT and other interested State agencies, and concerned industry representatives. Once the enhanced interactive database is developed, ongoing compilation of current and new data as well as assessment of trends will be necessary to maintain a valuable management tool.

This project will improve emergency response planning by emergency management agencies, permit process improvement, facilitate more and higher quality education/research in environmental science, and improve water conservation efficiency.

This project will help to fulfill three areas of the Leadership Agenda: "Safe Communities, Environment, and Accountable Government." This project achieves all four goals in the DNR strategic plan and its mission: To conserve and enhance our natural resources in cooperation with individuals and organizations to improve the quality of life for Iowans and ensure a legacy for future generations.

Expected Results in this Project

DNR's strategy builds on existing knowledge/resources. Objectives include:

1. Implement a comprehensive, real-time water resource permitting, management and development system.
2. Meet Water Use Stakeholder Group specific request for electronic reporting capability.
3. Adhere to Iowa Code mandates.
4. Future benefits include:
 - a. Characterize Iowa's surface and groundwater availability, quality, use, and sustainability.
 - b. Identify and estimate present and future water use by geographic area and types of user groups.

The enhanced database will improve the existing Water Use web application so as to provide a better process for permitting, reporting, and fee collection, affecting 4,000 permittees. Electronic submittal of yearly usage reports, hydrogeologic reports, and applications/renewals will replace time-consuming, manual paper/digitization processes, thereby allowing permittees to enter information in an edited format, reducing the number of errors and data entry. The anticipated outcome will be an automated exchange of information (internal/external) and improved data consistency.

The ability to “drill down” into well data existing in all current databases will allow useful information that is otherwise not readily accessible to be mined, geospatially mapped and made readily available for use internally/externally. This data is important to analyze effects of water usage, and for management decision-making. It will allow for informed planning and for better compliance enforcement for the department.

- Attachment #2, **Flowchart of Decision Support System for Resource Management**

Iowa’s citizens, industry members, and local, county and state government representatives who do business with the DNR will have direct access to the enhanced database to retrieve accurate, up-to-date data in real-time (24/7). DNR field staff will be able to do their jobs more efficiently and effectively through their real-time web access to the enhanced database. A new compliance enforcement feature critical to meet requirements established by law will be implemented. Delinquent notices, Intent to Revoke, Revocation notices, reminder notices, invoices, mail merges and e-mail notification will be automatically generated. Notices will be stored electronically as an “official electronic record.”

Tracing “special conditions” and linking to the Water Conservation Plans will be initiated. The Authentication and Authorization model will enable one user login; E-payment, automated verification and approval processes, and audit trails will be included. Improved accounting processes will ensure financial reconciliation meeting DNR/EPA/State Auditor requirements.

All stakeholders will benefit from improved accessibility, ease of submission of required reporting data, ease of tracking compliance with required permit conditions, graphical displays to improve understanding of newly-developed data, and improved data quality. It is envisioned that the database enhancements will also improve permit processing turnaround times and response to inquiries.

Recipients of this Service

- 4,000 Permittees and All other Iowans involved in water use allocation.
 - Irrigators, regional rural water, and municipal systems: water for the preservation of human life and welfare.
 - Quarries: water for economic development.
 - Power: water used incidental to the generation of power, and for emerging needs like biofuel plant location and development.
- State of Iowa. Water is critical for economic development and relocation of business and industries to the state.
- Other groups—Federal agencies to make national projections and statistical compilations Farm commodity groups to assist their projections.

Request *(include dollar amount and description of what will be purchased - i.e. services, hardware, software)*

The DNR seeks funding to develop a web-based information database and decision support system to use in decision-making for resource management and assessments (predictive models). Our vision is to allow access to data from various existing databases and from those that will be developed in the

future. These existing databases are managed by the DNR's Iowa Geological Survey and by the DNR's Water Quality Bureau. This information is also utilized by regulated industry, the public, and other state and federal agencies. Information will be shared with Public Health agencies, the DOT and other interested State agencies, and concerned industry representatives.

DNR is requesting \$20,000 to be applied toward the services of a Business Analyst for Scope Analysis for this project. This Scope Analysis will identify the specific program and stakeholders' needs and identify the impact on the public. The Business Analyst will review the current database, determine what system enhancements, improvements and new capabilities will be required. The BA will also project the final cost of design, implementation, and deployment, which is currently estimated at \$225,000.

Project Timeline

Phase	Start Month/Year	End Month/Year	Estimated Amount
Scope Analysis	March 1, 2009	July 31, 2009	\$ 60,000.00
Design	November 1, 2009	September 30, 2011	\$ 225,000.00 (est.)
Implementation	Included in design phase	Included in design phase	Included in design phase

Resources Being Contributed (*people or funds being contributed to the project by the sponsoring agency- include role/% of time or amount in dollars*)

Depending on what monies can be contributed from other sources such as IowaAccess and Return on Investment (ROI), the Water Supply section is budgeting to make up the balance of the total estimated cost for this project. If necessary, the project will be spread over two years to complete.

IOWAccess Advisory Council Scoring Factors

1. Statutory requirement or other mandate

(Is the project required by law or regulation, or is it needed to comply with state IT standards?)

567—50.1 of the Iowa Administrative Code (IAC)

(455B) *Scope of division.* The department has jurisdiction over the surface and groundwater of the state to establish and administer a comprehensive program to ensure that the water resources of the state be put to beneficial use to the fullest extent possible, that the waste or unreasonable use, or unreasonable methods of use of water be prevented, and that the conservation and protection of water resources be required with the view to their reasonable and beneficial use in the interest of the people.

Iowa Code Section 455B.266 details Iowa's current water priority-allocation system. Section 455B.171 defines uses of water for human consumption and sanitation.

- Attachment #3, **Program Authority to Mitigate Consequences of Drought**

(Does the project fulfill a new mandate or is it required by existing law?)

The DNR seeks funding to develop a web-based information database and decision support system to use in decision-making for resource management and assessments (predictive models). Our vision is to

allow access to data from various existing databases and from those that will be developed in the future. These existing databases are managed by the DNR's Iowa Geological Survey and by the DNR's Water Quality Bureau. This information is also utilized by regulated industry, the public, and other state and federal agencies. Information will be shared with Public Health agencies, the DOT and other interested State agencies, and concerned industry representatives.

DNR has the responsibility to acquire and make water quantity and water quality information available to the public. In particular, this incorporates major water users in private industry and municipal utilities. This data is necessary to assure sustainable water resources. Information is available in various forms within the Department and with other agencies but must be gathered, assessed, integrated, and put into an electronic format for planning purposes and allocation decisions. Once the enhanced interactive database is developed, ongoing compilation of new data and assessment of trends will be necessary to maintain this valuable management tool.

(Is it required by IT standards or necessary to interface with existing application?)

This application will be developed according to ITE/DNR standards and will be compatible with existing DNR software/hardware requirements. No additional investment in hardware is anticipated. The goal is to meet EPA's reporting requirements by integrating with Iowa's DNR One Stop Facilities Exchange. The One Stop Facilities system pulls information from various environmental program databases and integrates it.

2. Other funding source(s) *(What other funding sources have been investigated and what were the results?) (Have they been applied for? What is available?)*

On August 8, 2008 the Water Supply Engineering Section presented a request to the DAS for a Return on Investment (ROI) funding of \$225,000.00. Out of 27 presentations, this project ranked 16th from the top. Final determinations will be announced in 2009.

(Have transaction or other customer fees been considered?)

Currently the Water Use program is funded completely through General Fund appropriations. One new source of funds for the database will come from collecting newly legislated yearly fees, starting July 1, 2009. Depending on what monies can be contributed from other sources such as IowaAccess and Return on Investment (ROI), the Water Supply section is budgeting to make up the balance of the total estimated cost for this project. If necessary, the project will be spread over two years to complete. The WS Section will also make provisions to pay for on-going support by either augmenting staff with a contractor, or creating a new IT position to support this and other electronic programs utilized by this section.

- Attachment #4, **Water Use Fee Structure, House File 2672 (approved)**

*(Is there a return to the IOWAccess Revolving Fund through transaction fees?)
(Highest ranking for seeking/receiving outside funding.)*

No, fees collected pursuant to HF 2672 shall be credited to the water use permit fund created in section 455B.265A of the Iowa Administrative Code.

3. Improved citizen access to government information

(How is citizen access to government enhanced? Greater convenience? Better reliability?)

Iowa's citizens, industry members, and local, county and state government representatives who do business with the DNR will have direct access to the enhanced web-based database to submit and to retrieve accurate, up-to-date information in real-time (24/7).

(Proportion of manual/in person effort being replaced/eliminated? Faster response time? Easier to use?)

- The ability to send data/information electronically will benefit the public, providing the opportunity for electronic business transactions. Currently, 100% of applications are filled out on paper and processed manually by clerical and engineering staff.
- An enhanced database will make it easier to perform unique and unpredictable queries from external and internal sources. Currently that ability is somewhat limited and is not available to the public.
- Citizens will be able to pay their permit fees using the E-payment process through One-Stop.
- Citizens will benefit by DNR staff spending more time on enforcement and public education rather than data entry, filling out, copying, and sending reports.
- Citizens will get more for their permit fees and taxes, because the enhanced database will increase staff efficiency, allowing for greater productivity, which will be directed toward more equitable distribution of our state's water resources.
- Improved efficiency will mean more time for staff to spend with the public and that equates to a more informed public.
- Public access to information via the Internet will improve program compliance because it will be easier to complete and submit forms online.
- Reduced human intervention and built-in application edits will improve data quality.
- Records staff currently receive and manually log in paper reports and file them. The new system will satisfy requirements for paperless recordkeeping. Therefore, time will be freed up by Records staff to take on other tasks benefiting the DNR customer and staff.
- An enhanced and efficient database will reduce the inefficiency of manually filling out forms/reports/etc., reduce excessive paper handling, and eliminate the need to consult legacy databases, which results in reduced cost to the state.
- Reduction of paper check handling will eliminate the number of recordkeeping errors.
- Money will be saved by not utilizing a slow, sometimes inefficient mail service.
- Increased activity and productivity means greater protection for our natural resources.

(More secure?) The greater the degree of citizen access to information, the more points.

- The DNR will utilize ITE's Authentication and Authorization (A & A) module to enable single sign-on for all users of the system.
- Some information in the system is confidential. Protecting the security of locational information (well sites and drinking water intake locations) is also important (and required) for Homeland

Security. Permittees and state agencies will have full access, while citizens will have more limited access.

- Continuity of operations will be improved. If there were a disaster affecting the DNR paper files or photographs it would result in loss of documentation that must be kept for historical, legal or legislative purposes. Documentation in electronic form will be backed up and available offsite at another location.

4. Impact on citizens or the business they conduct with the governmental entity *(What segment of the citizen population is affected? Is this just a select group or the public as a whole?)*

Specific Stakeholders who participated in program evaluation meetings include:

- Irrigators, regional rural water, and municipal systems: water for the preservation of human life and welfare.
- Quarries: water for economic development.
- Power: water used incidental to the generation of power, and for emerging needs like biofuel plant location and development.

Other Stakeholders include:

- 4,000 Permittees and all other Iowans involved in water use allocation and water storage.
- Water is critical for economic development and relocation of business and industries to the state.
- Gov. Culver's "Green Initiative" for Energy conservation

(How does the proposed solution meet an identified need vs. a "nice to have"?)

- Stakeholders have specifically asked for this project, and it WILL meet their needs.
- A better method to access, extract, analyze and share data is a critical need.
- Data integrity is also required for EPA reporting.
- Compliance is a manual process that must be automated for data-driven compliance reviews to be possible.
- There is a need to improve the ability to make accurate long term decisions, while preserving the rights of all stakeholders. This system will help facilitate data-driven decisions.

(Is the primary beneficiary [the citizen] vs. [does this enhance the entity's ability to serve the citizen]?)

- Stakeholders (listed above) have specifically asked for this project, and it WILL meet their needs.
- In addition, it will meet USGS (U.S. Geological Survey) and DNR needs.

5. Enhanced access to government information/ greater interactivity *(How does the project enhance citizen one-stop electronic access to government information and transactions or allow for greater interactivity? The most points for "beneficial" use of IT to revamp business processes. Highest for total replacement. Average if adds new dimension to existing service.)*

We have an additional need that did not exist before, which is the invoicing for fees (HF 2672) and need to automate all compliance functions that are currently handled manually.

One-stop electronic access to certain data is not available today. The new system will satisfy that requirement as well as integrate with other databases (geological survey, and the One Stop Facilities Exchange for Environmental Protection Agency reporting).

Access through the web for Water Use information will increase efficiency and accuracy. It will allow stakeholders to search the database themselves and create ad hoc reports. Utilization of the A & A module will allow citizens and other stakeholders a single sign-on. With the single sign-on citizens can carry out various types of business with the State of Iowa.

6. Collaboration *(Does your project provide an opportunity for another governmental entity to share the resources or benefits? Can your project be used by another entity? The most points for projects benefiting multiple governmental entities or encouraging collaboration between entities. May be demonstrated by letters of commitment from other entities.)*

The Environmental Protection Agency (EPA) will utilize and exchange information with this system. In addition, DNR will allow access to data from various existing databases and from those that will be developed in the future. These existing databases are managed by the Iowa Geological Survey, and the Water Quality Bureau.

7. Chance for success *(Describe why the project is well placed for success. Realistic timeline? Previous success rate? Sufficient support staff? Upper level management commitment? More points for projects with low technical and business risk and high chance of success.)*

Permit fees to assist with the funding of this project will not be available until after June 2009. The DNR will make do with the manual process and current system for now. However, it is imperative that a web enabled solution be available prior to the following invoicing cycle which would begin in December 2010.

The Water Quality Bureau Chief is committed to the successful implementation of this project. Funding from the permit fees will be utilized to maintain the system in the future and partially fund the initial development.

DNR has one Information Technology Specialist 4 available to support the system once developed. However, there is a need for a Business Analyst on a temporary basis to complete a scope analysis before development and implementation takes place. A project is generally more successful when scope analysis is performed prior to development.

8. Estimated financial cost/benefit *(Provide a rough calculation of costs vs. benefits. The higher the ratio of estimated benefit to the estimated cost, the more points.)*

The request for funding of scope analysis is in the amount of \$20,000. It is estimated that the projected return on investment is approximately \$200,000. The projected reduction in expense over the next five years is projected to be \$350,000.

9. Transparency *(How does the project enhance open and transparent government for citizens? More points for project with high usability in allowing citizens to quickly reach information or services.)*

Explained above in other response. In addition, improvements to the existing system may enable links to databases like Geosam and private wells in the future, which will further enhance access to information quickly.

10. Efficiency *(Why is this project the "best" solution for the need? Are there alternatives and if so, why are they inadequate? More points for project that replaces outdated/legacy system or localized information access.)*

The risks of not proceeding with the project include:

- Inefficient use of personnel and technology will continue to be a risk if the project is not executed.
- Lack of vital information will continue to frustrate staff and the public.
- Failure/inefficient service is felt at all levels; intra-agency, inter-agency, legislature, down to individual communications with our citizens.
- The DNR does not have adequate staff to develop or maintain an application to meet the upcoming Water Usage needs.
- Without proper funding, inefficiencies will be perpetrated and enhancement will not be materialized.

The current database does not have the capability to invoice or track fees, or to accept electronic payment. Neither does it enable automated compliance functionality. Queries to accommodate this need are limited at this point in time. A business analyst is needed to survey the engineering staff to determine what might be needed for enhancement, redesign, building code, testing, and deployment.

Automation via the Internet is definitely the best solution, especially to meet the new requirements of HF2672. The information will be available 24 x 7 to anyone anywhere accessing the Internet. The alternative is for the DNR to continue the current cumbersome manual paper processes.

Acknowledgement of Conditions for Approval of IOWAccess Project

Project Approval Conditions

IOWAccess Revolving Fund project approvals are based upon the application materials submitted to the IOWAccess Advisory Council and approved by the Director of DAS. Recipients of IOWAccess projects are subject to the following conditions.

- The Iowa Accountable Government Act, Iowa Code Chapter 8E
- Information technology standards and practices that are applicable to “participating agencies”, the Office of the Governor, and elective constitutional or statutory officers pursuant to Iowa Code Section 8A.206.
- Iowa Administrative Code Section 11-25(8A) - Information Technology Operational Standards.
- Policies and procedures of the IOWAccess Advisory Council and DAS as outlined in this acknowledgement or published on their websites.

IOWAccess Project Policy Guides

The acceptance of an IOWAccess Project is based on the following:

- Sponsoring agency is responsible for the efficient and effective administration of IOWAccess Projects through the application of sound management practices.
- The IOWAccess Project Process is guidance only and describes a customary sequence used in software development. As such, sponsoring agencies are not required to conform to the IOWAccess Project Process.
- Sponsoring agency assumes responsibility for using IOWAccess funds in a manner consistent with program objectives and the terms and conditions of the IOWAccess Project.
- Sponsoring agency will commit appropriate resources in a timely manner to the project to prevent undue delay in project completion.
- Sponsoring agency will be responsible for compliance with audit requirements.
- Approval of one phase of an IOWAccess project does not mean that other phases will be approved. Each phase is subject to separate approval.

Guidelines for Costs

Allowable costs

To be allowable under IOWAccess Projects, costs must meet the following general criteria:

- Be necessary and reasonable for proper and efficient performance of IOWAccess Projects.
- Be authorized or not prohibited under State or local laws or regulations.

- ✓ Not be included as a cost or used to meet cost sharing or matching requirements of any other State or Federal Project in either the current or a prior period, except as specifically provided by State law or regulation.

Reasonable costs

A cost is reasonable if, in its nature and amount, it does not exceed that which would be incurred by a prudent person under the circumstances prevailing at the time the decision was made to incur the cost. In determining the reasonableness of a cost, consideration shall be given to:

- Whether the cost is of a type generally recognized as ordinary and necessary for the operation of the sponsoring agency or performance under the IOWAccess Project.
- Market prices for comparable goods or services.

Composition of Cost

Typical costs chargeable to IOWAccess Projects are:

- Cost of materials acquired, consumed, or expended specifically for the purpose of those Projects.
- Equipment and other capital expenditures detailed in the application and previously approved as part of the Project.

Amounts not recoverable as costs under one State or Federal Project may not be shifted to another State or Federal Project, unless specifically authorized by State or Federal legislation or regulation.

Availability of Funds

DAS Finance processes the disbursement of all funds for IOWAccess Projects. Qualifying expenditures for goods and services obtained from other than DAS-ITE or Iowa Interactive, LLC, must be paid by the sponsor and submitted to DAS for reimbursement. In order to facilitate the timely processing of IOWAccess Project reimbursements, entities must use the following process:

- The request must be submitted by the sponsor in writing or through e-mail to the IOWAccess Manager.
- The request must include the following information:
 - ✓ Identification of the IOWAccess Project for which reimbursement is being sought,
 - ✓ The amount of reimbursement requested,
 - ✓ Period of time covered by request,
 - ✓ A comprehensive description of the items covered by the request, and
 - ✓ Copies of any supportive documentation (e.g. vendor invoices, documentation for completed work).
- The IOWAccess Manager will review the supporting financial information and evaluate it against the originally approved project.

- When satisfied that the request meets the stated requirements, the IOWAccess Manager will recommend the request for approval for payment and submit it to DAS Finance for processing.
- In no case will the total reimbursement for each phase exceed the approved amount of the Project phase.

The sponsor seeking reimbursement of expenses is responsible for retaining all necessary documentation pertaining to the relevance and results of the work performed and will provide such documentation upon request. DAS Finance will refer the Auditor of State to the sponsor should there be any questions about the expenditures associated with the Project.

Sponsor Monthly Status Reports

No later than the 21st day of each month the sponsoring agency shall submit a status report to the IOWAccess Manager if work is being performed by a developer *other than DAS-ITE or Iowa Interactive, LLC*. This status report should include:

- A short narrative of the accomplishments for the month.
- Descriptions of any changes in tasks, resources, or issues materially affecting the project plan and, if necessary, a schedule with new target dates provided.

Changes to a Project

All changes to the Project, or the proposal that resulted in the Project, must be reviewed by the IOWAccess Advisory Council. The Sponsor must be prepared to appear before the IOWAccess Advisory Council to answer questions and provide any clarifications necessary prior to any action by the Council regarding a change to the Project. Reasons for requesting a change to the amount of the Project include, but are not limited to:

- Changes in the scope or objectives of the Project.
- Changes in the amount of project funding.
- Carryover of approved funding for a period of more than one year from the date of approval of the original funding.

All changes to an Project recommended by the IOWAccess Advisory Council must be subsequently approved by the Director of DAS.

Project Disputes

Iowa Code 679A.19 DISPUTES BETWEEN GOVERNMENTAL AGENCIES.

“Any litigation between administrative departments, commissions or boards of the state government is prohibited. All disputes between said governmental agencies shall be submitted to a board of arbitration of three members to be composed of two members to be appointed by the departments involved in the dispute and a third member to be appointed by the governor. The decision of the board shall be final.”

Sponsor Acceptance

Signing below will signify that sponsor acknowledges and agrees to the IOWAccess project approval conditions as defined in this document.

_____ Sponsor Signature	_____ IOWAccess Manager Signature
_____ Date	_____ Date

Attachment 1

An Overview of Water Use Permitting in Iowa

By M. K. Anderson, P.E.

In order to obtain and use ground water in Iowa, state law requires 2 types of permits. The first is a permit to physically construct a water well. Construction permits fall into 2 categories; those for private wells and those for public water supplies. Public water supplies are those systems that supply piped water to fifteen service connections, or which regularly serve an average of at least 25 people per day, for at least 60 days of the year. The services of a licensed professional engineer are required to construct public water supply wells.

Ninety six of Iowa's ninety-nine counties issue private well construction permits. The county sanitarians provide the forms and the siting requirements for wells in those counties. Wells in the remaining three counties are constructed under the terms of permits issued directly by the Iowa DNR. Russ Tell is the contact person for this (725-0462).

Water Use Permits

The 2nd type of permit, required by municipalities, industries, agricultural and golf course irrigators, farms, and agribusinesses and any other user of over 25,000 gallons of water per day, is the water use permit. This is sometimes referred to as the water allocation or the water rights permit. These permits are required under Iowa laws that originated during the droughts of the 1950's. The stated purpose of the law is to "...assure that the water resources of the state be put to beneficial use to the fullest extent possible, that the waste or unreasonable use, or unreasonable methods of use of water be prevented, and that the conservation and protection of water resources be required with the view to their reasonable and beneficial use of the people."

The law requires permitting the use of all water in quantities over 25,000 gallons per day. It applies to the use of water from streams and reservoirs, gravel pits, quarries, and other sources. The injection of water into the ground, for disposal of water used in heat pumps, or for other purposes is also regulated, but in practice this is done by EPA. The term of these permits is 10 years; in some circumstances, they are issued for a shorter period.

Authority/mission

The authority for regulating water allocation arises from the mission the State has to protect public health and welfare. The use of water by one person can affect other nearby water users and the general public. Iowa's water allocation program attempts to sort through various competing uses, by doing the following:

1. An administrative procedure to resolve water use conflicts.
2. A permitting program to ensure consistency in decisions on the use of water.
3. Provisions for public involvement in issuing water allocation permits and in generally establishing water use policies.

All waters, surface and groundwater, are “public waters and public wealth” of Iowa citizens. Iowa statute provides an allocation system based on the concept of “beneficial use”. The key points are:

1. Water resources are to be put to beneficial use to the fullest extent of which they’re capable.
2. Waste, unreasonable use, and unreasonable methods of water use are prevented.
3. Water conservation is expected.
4. Established average minimum instream flows are protected.

Usual procedures

Application for a water use permit is made on a 6 page form supplied by the DNR. This was last updated in 2005, and is available on our web-site. The completed forms must be accompanied by a \$25 fee and a map showing the location of the proposed well must be returned to the DNR. The location of the land upon which the water is to be used must also be shown on the map. The applicant should include a description of the exact manner in which they intend to use the water for which a permit is requested.

When DNR receives an application, it is initially screened to determine whether there is sufficient information provided to process the application. In the case of groundwater, the Iowa Administrative Code requires that available hydro geological information be reviewed to determine what, if any, further information the applicant must provide. The IAC specifically states that additional information, over and above that requested by the application form, may be required. The application is not complete without this additional information; the applicant must supply it in order to obtain the use permit.

If DNR is unable to identify the aquifer from which withdrawals are proposed, the applicant is required to assist in determining this. They’re further required to provide information that will assist DNR to predict the effects of the withdrawals upon the aquifer and upon neighboring water supplies. DNR may require a survey of surrounding wells (usually within 1-2 mile radius), to determine the probability of serious well interference problems.

Water quality data, if available, though not specifically mentioned in the rules, and is helpful in determining the aquifer that is being tapped. It should be supplied by the applicant if it is available and may be requested by DNR if needed. In practice, DNR relies heavily on the expertise of the Iowa Geological Survey in Iowa City to evaluate data in ambiguous cases. Test drilling may be required, and if done, the well logs must be submitted to IGS in Iowa City. Yield tests may be needed, and even controlled aquifer tests using the formal Theis method are on occasion necessary. These are done

under the supervision of a registered well driller or a licensed professional engineer. DNR may require monitoring well installation for the aquifer test.

After all the necessary supporting information is received, a summary report of the application is written containing recommendations to award or deny the permit. It describes the hydro geologic context of the proposed withdrawal, the anticipated effects of the proposed withdrawals of groundwater, and indicates whether verified well interference has been found. The reasons for the inclusion of non-standard permit conditions are indicated in the summary report.

Upon completion of the summary report, DNR publishes a notice of its intent to award a permit. The IAC allows 20 days for the public to request a copy of the summary report, and to submit comments. The comment period may be extended for cause. At the end of the notice period, DNR considers all comments and if necessary revises the summary report. The initial decision is then issued, as either a Water Use Permit, or a disapproval of the application. Complete disapprovals are very rare. In many cases, though, special conditions are included in the permit. In others, the rates of withdrawal, and the total annual amount of withdrawals, may be reduced from the rates and amounts requested to facilitate wise and beneficial use of the water resource. Copies of the initial decision are mailed to the applicant, all commenters, and any other who request a copy.

Conflicts

The initial decision may be appealed by any person who feels aggrieved. An appeal must be filed within 30 days of the certified date on which the initial decision was mailed; DNR's formal legal appeals process is then invoked. Disposition of contested cases can be as quick as 1 month or as long as 2 years. 99%+ of new permit applications are not contested.

Here are some sample water use conflicts that can arise:

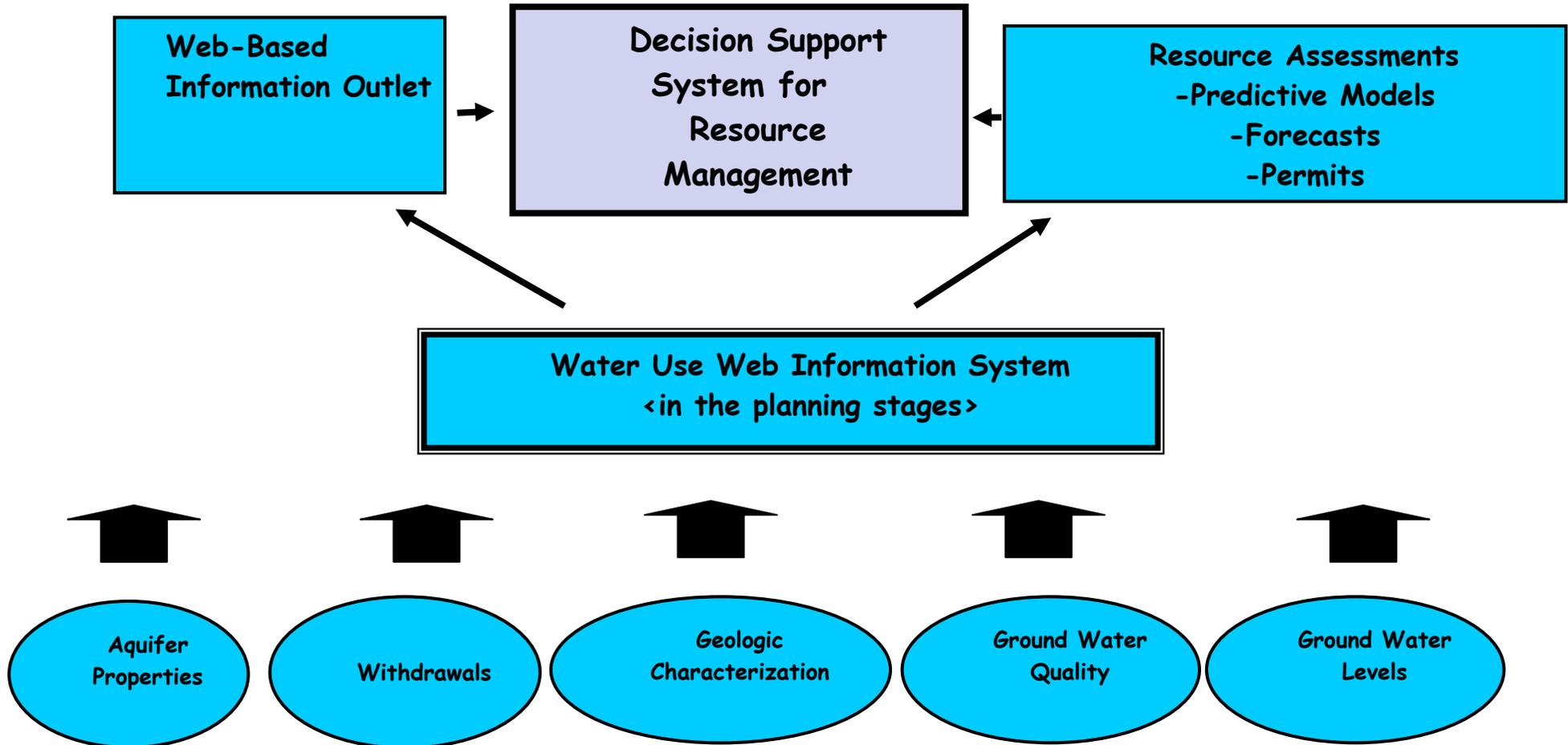
- Need to protect the level of natural lakes, and manage changes in level of artificial lakes.
- Well interference.
- Decline in level of areal groundwaters' water table. (allocations resulting in long-term overdraft).
- Groundwater quality degradation.

Any of these types of conflict may be exacerbated by dry conditions. The technical term we use in Iowa for dry conditions or "drought" is "triggering event" (defined in 567—Chapter 52.10(2)). The Department has the authority to implement priority allocation restrictions if a triggering event has occurred. The specifics of allocation restrictions (in plain english, water use cut-backs) are given at 567—Chapter 52.10(1) and (3). This part of Iowa's water allocation mechanism was adopted following the 1985 Iowa Water Plan; it was not invoked in the drought years 1988-1989.

The Department has administrative procedures for addressing certain well interference conflicts. Situations giving rise to well interference are quite diverse. It is not feasible to develop administrative guidelines that address all possible situations, but the Department has attempted to set up a relatively

formal standardized framework, with certain guidelines to be followed. These are found in Chapter 54 of the Department's Administrative rules, and in Department "Technical Bulletin No. 23, "Guidelines for Well Interference Compensation". This chapter provides an administrative means for resolving well interference conflicts in situations where an existing or proposed permitted use causes or will cause well interference in a nonregulated (e.g., private) well. Complainants under this procedure must have their well inspected by a licensed well driller, and an official "water well inspection report" must be signed by the complainant and the well driller, and submitted to the Department for formal action. At that time, the Department has several options for further action, including (1) dismissal of the complaint; (2) pushing for informal negotiations to resolve the dispute; (3) ordering gathering of more information (usually test pumping) in order to attempt to formally resolve the conflict. Informal resolution of well interference conflicts are encouraged wherever possible.

Attachment 2 - Flowchart



Attachment 3

Program Authority to Mitigate Consequences of Drought

The dry years of the 1950s have not been equaled in longer term severity. However 1988 and 1989, and 2000 and 2002 put some strain on various parts of the state. When the inevitable serious drought occurs, the Department will have the administrative, hydro geological, and computer tools required to mitigate the consequences of the drought.

Formal authority for this program is designated as follows:

Chapters 50-52 (IAC - 567) Water Allocation and Use Permits

A water use permit is required for the use (withdrawal or diversion) of more than 25,000 gallons of water per day and the storage of more than 18 acre-feet of water in a pond or reservoir.

Major non-regulated uses:

- * Purchase of water from municipal systems, rural water districts or other permitted uses.
- * An operation such as a hydraulic dredge or gravel washing where the water is returned directly back into the pit from which it is withdrawn and the consumptive use is less than 25,000 gallons per day.
- * Non-recurring short-term withdrawals for construction purposes, research, etc. are registered for up to one year.

A permit is required for diversion of water or any other material from the surface directly into any aquifer.

- Major Application - Agricultural drainage wells.
- Recent Application - Groundwater heat pumps.

A water use permit is not required for a single-family residence heat pump installation with a withdrawal well and injection well where the use is less than 25,000 gallons per day. However, such injection wells must be registered with EPA.

A permit is required for the permanent storage of 18 or more acre-feet of water in a surface water impoundment.

Registration is required for nonrecurring minor uses of water such as highway construction, pre-filling lagoons and hydrostatic testing of pipelines.

Attachment 4

Water Use Fee Structure

HOUSE FILE 2672 (approved)

AN ACT

1 4 RELATING TO WATER USE PERMIT FEES, CREATING A NEW WATER USE
1 5 PERMIT FUND, AND MAKING APPROPRIATIONS.

1 6

1 7 BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA:

1 8

1 9 Section 1. Section 423.3, Code Supplement 2007, is amended
1 10 by adding the following new subsection:

1 11 NEW SUBSECTION. 93. Water use permit fees paid pursuant
1 12 to section 455B.265.

1 13 Sec. 2. Section 455B.265, Code 2007, is amended by adding
1 14 the following new subsection:

1 15 NEW SUBSECTION. 6. The department may charge a fee to a
1 16 person who has been granted a permit pursuant to this section
1 17 or is required to have a permit pursuant to section 455B.268.
1 18 The commission shall adopt by rule the fee amounts.

1 19 a. The amount of a fee shall be based on the department's
1 20 reasonable cost of reviewing applications, issuing permits,
1 21 ensuring compliance with the terms of the permits, and
1 22 resolving water interference complaints. The commission shall
1 23 calculate the fees to produce total revenues of not more than
1 24 five hundred thousand dollars for each fiscal year, commencing
1 25 with the fiscal year beginning July 1, 2009, and ending June
1 26 30, 2010.

1 27 b. Fees collected pursuant to this subsection shall be
1 28 credited to the water use permit fund created in section
1 29 455B.265A.